55. (Twice Amended) An isolated polypeptide encoded by a nucleic acid molecule that comprises at least 30 [74] nucleotides and hybridizes to a nucleic acid molecule having the sequence of the cDNA of the clone contained in ATCC Accession No. 97880 at 68°C in 0.1X SSC, 0.1% SDS [42°C in 0.2X SSC, 0.1% SDS].

56. (Twice Amended) An isolated polypeptide encoded by a nucleic acid molecule that comprises at least 30 [74] nucleotides and hybridizes to a nucleic acid molecule having the sequence of the cDNA of the clone contained in ATCC Accession No. 97881 at 68°C in 0.1X SSC, 0.1% SDS [42°C in 0.2X SSC, 0.1% SDS].

REMARKS

The specification has been amended to update the priority information. The Examiner stated that the declaration is defective because it is not in compliance with 37 CFR §1.7(a). The present application, which is a divisional of U.S. Serial No. 08/623, 629 ("the '629 application"), was filed with a copy of the signed declaration filed in '629 application. This declaration references U.S. Serial No. 08/412,431, from which the '629 application claims priority. Thus, it is believed that the declaration filed with the present application is proper.

Claims 57-68 have been cancelled. Claims 29, 37, 38, 43 and 45-56 have been amended. The Appendix contains all of the pending claims as presently amended.

Deposit

The enclosed declaration by the Applicant, Andrew J. Shyjan, confirms that the clones deposited as ATCC Accession Nos. 97880 and 97881 are the same as the clones described in the specification and were in the Applicant's possession at the time the present application was filed.

Rejections Under 35 U.S.C. §112, first paragraph

Written Description

The Examiner rejected claims 29-43 and 45-50 as failing to be supported by a proper written description.

The Examiner stated that the specification does not support the limitation "comprising at least 542 contiguous amino acids." The Examiner stated that the specification supports the phrase a "protein product of 542 amino acids in length."

Applicant disagrees with the Examiner's contention that the specification does not support the limitation "comprising at least 542 contiguous amino acids" however, solely to facilitate prosecution, claims 29, 37, 38, 43 and 45-50 have been amended to remove the phrase "comprising at least 542 contiguous amino acids" and claims 39-42 have been cancelled.

Claims 29 and 37 have been amended to recite a polypeptide "comprising amino acids 1-844 of SEQ ID NO:7". This limitation is clearly supported by the specification at page 120, lines 6-17.

Claims 29 and 38 have been amended to recite a polypeptide "comprising amino acids 850-1497 of SEQ ID NO:7". This limitation is clearly supported by the specification at page 120, lines 6-17.

Claims 43, 45 and 48 have been amended to replace the phrase "comprising at least 542 contiguous amino acids" with "consisting of 542 amino acids" (or "consists of 542 amino acids"). This limitation is clearly supported by the specification at page 120, line 3.

Claims 43, 46 and 49 have been amended to include the limitation "consisting of 1497 amino acids" (or "consists of 1497 amino acids"). This limitation is supported by the specification at page 120, line 5.

Claims 43, 47 and 50 have been amended to include the limitation "consisting of 1533 amino acids" (or "consists of 1533 amino acids"). This limitation is supported by the specification at page 120, line 7.

The Examiner rejected claims 51-56 as failing to be supported by a proper written description. The Examiner stated that the specification does not support the limitation "comprises at least 74 nucleotides."

Applicant disagrees with the Examiner's contention that the specification does not support the limitation "comprises at least 74 nucleotides." However, solely to facilitate prosecution, claims 51-56 have been amended to replace the limitation "comprises at least 74 nucleotides" with the limitation "comprises at least 30 nucleotides." This limitation is supported by the specification, e.g., at page 106, lines 9-10.

The Examiner rejected claim 57-62 as failing to be supported by a proper written description. The Examiner stated that the specification does not support the limitation "has the sequence of a naturally-occurring mRNA present in a human melanocyte." Applicant disagrees with the Examiner's contention that the specification does not support the limitation "has the sequence of a naturally-occurring mRNA present in a human melanocyte." However, solely to facilitate prosecution, claims 57-62 have been cancelled, obviating this rejection.

The Examiner rejected claim 63-68 as failing to be supported by a proper written description. The Examiner stated that the specification does not support the limitations "at least 94.4% identical" and "at least 86% identical." Applicant disagrees with the Examiner's contention that that the specification does not support the limitations "at least 94.4% identical" and "at least 86% identical." However, solely to facilitate prosecution, claims 63-68 have been cancelled.

Enablement

Claims 57-62: The Examiner rejected claims 57-62 for lack of enablement. The Examiner stated that the specification does not enable one of ordinary skill in the art to make polypeptides encoded by a naturally occurring mRNA present in a human or mouse melanocyte. It is Applicant's position that the specification does enable one of ordinary skill in the art to make polypeptides encoded by a naturally occurring mRNA present in a human or mouse melanocyte. The specification includes three working examples of making nucleic acid molecules encoding such polypeptides. However, solely to facilitate prosecution, claims 57-62 have been cancelled.

Claims 63-68: The Examiner rejected claims 63-68 for lack of enablement. Specifically, the Examiner stated that "the specification has not enabled determining which sequences are 94.4 or 86% identical in view of the lack of guidance concerning algorithms and parameters." Solely to facilitate prosecution, Applicant has cancelled claims 63-68, obviating this rejection.

Rejections Under 35 U.S.C. §112, second paragraph

The Examiner rejected claims 57-62 for indefiniteness. Claims 57-62 have been cancelled, obviating this rejection.

Rejections Under 35 U.S.C. §103

The Examiner rejected claims 51 and 54-56 as unpatentable over U.S. Patent No. 5,487,985 in view of Zubay. The Examiner stated that amending the claims to recite the more stringent hybridization conditions of 68°C in 0.1X SSC, 0.1% SDS would obviate this rejection. Applicant has so amended the claims.

The Examiner rejected claims 52-56 as unpatentable over U.S. Patent No. 5,565,340 in view of Zubay. The Examiner stated that amending the claims to recite the more stringent hybridization conditions of 68°C in 0.1X SSC, 0.1% SDS would obviate this rejection. Applicant has so amended the claims.

Conclusion

Applicant submits that all of the claims are now in condition for allowance, which action is requested. Filed herewith is a check in payment of the excess claims fees required by the above amendments and Petition for Automatic Extension with the required fee. Please apply any other charges or credits to Deposit Account No. 06-1050.

Respectfully submitted,

Date: 1 MARCH 200

Anita L. Meiklejohn, Ph.D.
Reg. No. 35,283

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APPENDIX

29. An isolated polypeptide selected from the group consisting of:

a) a polypeptide comprising the amino acid sequence of SEQ ID NO:3;

b) a polypeptide comprising the amino acid sequence of SEQ ID NO:7;

c) a polypeptide comprising the amino acid sequence of SEQ ID NO:9;

d) a polypeptide comprising the amino acid sequence encoded by the cDNA of the clone contained in ATCC Accession No. 97880;

e) a polypeptide comprising the amino acid sequence encoded by the cDNA of the clone contained in ATCC Accession No. 97881;

f) a polypeptide comprising the amino acid sequence encoded by the cDNA of the clone contained in NRRL Deposit No. B-21416;

g) a polypeptide comprising amino acids 1 to 844 of SEQ ID NO:7; and

h) a polypeptide comprising amino acids 850 to 1497 of SEQ ID NO:7.

31. The isolated polypeptide of claim 29 wherein the polypeptide comprises the amino acid sequence of SEQ ID NO:3.

32. The isolated polypeptide of claim 29 wherein the polypeptide comprises the amino acid sequence of SEQ ID NO:7.

33. The isolated polypeptide of claim 29 wherein the polypeptide comprises the amino acid sequence of SEQ ID NO:9.

34. The isolated polypeptide of claim 29 wherein the polypeptide comprises the amino acid sequence encoded by the cDNA of the clone contained in NRRL Deposit No. B-21416.

35. The isolated polypeptide of claim 29 wherein the polypeptide comprises the amino acid sequences encoded by the cDNA of the clone contained in ATCC Accession No. 97880.

36. The isolated polypeptide of claim 29 wherein the polypeptide comprises the amino acid sequence encoded by the cDNA of the clone contained in ATCC Accession No. 97881.

37. The isolated polypeptide of claim 29 wherein the polypeptide comprises amino acids 1 to 844 of SEQ ID NO:7.

38. The isolated polypeptide of claim 29 wherein the polypeptide comprises amino acids 850 to 1497 of SEQ ID NO:7.

43. An isolated polypeptide selected from the group consisting of:

a) a polypeptide consisting of 542 amino acids and encoded by a nucleic acid molecule that hybridizes to the nucleic acid molecule of SEQ ID NO:2 or its complement at 68°C in 0.1X SSC, 0.1% SDS;

b) a polypeptide consisting of 1497 amino acids and encoded by a nucleic acid molecule that hybridizes to the nucleic acid molecule of SEQ ID NO:6 or its complement at 68°C in 0.1X SSC, 0.1% SDS;

c) a polypeptide consisting of 1533 amino acids and encoded by a nucleic acid molecule that hybridizes to the nucleic acid molecule of SEQ ID NO:8 or its complement at 68°C in 0.1X SSC, 0.1% SDS;

d) a polypeptide consisting of 542 amino acids and encoded by a nucleic acid molecule that hybridizes to a nucleic acid molecule having the sequence of the cDNA of the clone contained in NRRL Deposit No. B-21426 at 68°C in 0.1X SSC, 0.1% SDS;

e) a polypeptide consisting of 1497 amino acids and encoded by a nucleic acid molecule that hybridizes to a nucleic acid molecule having the sequence of the cDNA of the clone contained in ATCC Accession No. 97880 at 68°C in 0.1X SSC, 0.1% SDS; and

f) a polypeptide consisting of 1533 amino acids and encoded by a nucleic acid molecule that hybridizes to a nucleic acid molecule having the sequence of the cDNA of the clone contained in ATCC Accession No. 97881 at 68°C in 0.1X SSC, 0.1% SDS.

45. The isolated polypeptide of claim 43 wherein the polypeptide consists of 542 amino acids and is encoded by a nucleic acid molecule that hybridizes to the nucleic acid molecule of SEQ ID NO:2 or its complement at 68°C in 0.1X SSC, 0.1% SDS.

46. The isolated polypeptide of claim 43 wherein the polypeptide consists of 1497 amino acids and is encoded by an nucleic acid molecule that hybridizes to the nucleic acid molecule of SEQ ID NO:6 or its complement at 68°C in 0.1X SSC, 0.1% SDS.

47. The isolated polypeptide of claim 43 wherein the polypeptide consists of 1533 amino acids and is encoded by a nucleic acid molecule that hybridizes to the nucleic acid molecule of SEQ ID NO:8 or its complement at 68°C in 0.1X SSC, 0.1% SDS.

48. The isolated polypeptide of claim 43 wherein the polypeptide consists of 542 amino acids and is encoded by a nucleic acid molecule that hybridizes to a nucleic acid molecule having the sequence of the cDNA of the clone contained in NRRL Deposit No. B-21416 at 68°C in 0.1X SSC, 0.1% SDS.

49. The isolated polypeptide of claim 43 wherein the polypeptide consists of 1497 amino acids and is encoded by a nucleic acid molecule that hybridizes to a nucleic acid molecule having the sequence of the cDNA of the clone contained in ATCC Accession No. 97880 at 68°C in 0.1X SSC, 0.1% SDS.

50. The isolated polypeptide of claim 43 wherein the polypeptide consists of 1533 amino acids and is encoded by a nucleic acid molecule that hybridizes to a nucleic acid molecule having the sequence of the cDNA of the clone contained in ATCC Accession No. 97881 at 68°C in 0.1X SSC, 0.1% SDS.

51. An isolated polypeptide encoded by a nucleic acid molecule that comprises at least 30 nucleotides and hybridizes to the nucleic acid molecule of SEQ ID NO:2 or its complement at 68°C in 0.1X SSC, 0.1% SDS.

52. An isolated polypeptide encoded by an nucleic acid molecule that comprises at least 30 nucleotides and hybridizes to the nucleic acid molecule of SEQ ID NO:6 or its complement at 68°C in 0.1X SSC, 0.1% SDS.

53. An isolated polypeptide encoded by a nucleic acid molecule that comprises at least 30 nucleotides and hybridizes to the nucleic acid molecule of SEQ ID NO:8 or its complement at 68°C in 0.1X SSC, 0.1% SDS.

54. An isolated polypeptide encoded by a nucleic acid molecule that comprises at least 30 nucleotides and hybridizes to a nucleic acid molecule having the sequence of the cDNA of the clone contained in NRRL Deposit No. B-21416 at 68°C in 0.1X SSC, 0.1% SDS.

55. An isolated polypeptide encoded by a nucleic acid molecule that comprises at least 30 nucleotides and hybridizes to a nucleic acid molecule having the sequence of the cDNA of the clone contained in ATCC Accession No. 97880 at 68°C in 0.1X SSC, 0.1% SDS.

56. An isolated polypeptide encoded by a nucleic acid molecule that comprises at least 30 nucleotides and hybridizes to a nucleic acid molecule having the sequence of the cDNA of the clone contained in ATCC Accession No. 97881 at 68°C in 0.1X SSC, 0.1% SDS.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Andrew W. Shyjan
Serial No. : 08/862,442
Filed : May 23, 1997
Title : COMPOSITIONS AND METHODS FOR THE DIAGNOSIS, PREVENTION AND TREATMENT OF TUMOR PROGRESSION

Art Unit : 1642
Examiner : J. Burke

Assistant Commissioner for Patents
Washington, D.C. 20231

DECLARATION OF ANDREW W. SHYJAN

I, Andrew W. Shyjan, declare:

1. I am the inventor of the above-captioned patent application. I am Director of Oncology at Millennium Pharmaceuticals, Inc.

2. On or before March 29, 1996, individuals working under my supervision generated the Tfohy030 cDNA depicted in Figure 5 of the above-captioned patent application. This cDNA was inserted into pBluescript plasmid. This plasmid was used by an individual working under my supervision to prepare a sample of plasmid for deposit with the American Type Culture Collection (10801 University Boulevard, Masassas, VA). This sample was deposited with the American Type Culture Collection on February 11, 1997 and subsequently given Accession Number 97880. A copy of the American Type Culture Collection deposit receipt is submitted as an Appendix to this declaration.

3. On or before March 29, 1996, individuals working under my supervision generated the Nfohy030 cDNA depicted in Figure 6 of the above-captioned patent application.

CERTIFICATE OF DELIVERY BY HAND

I hereby certify that this correspondence is being delivered by hand on the date indicated below and is addressed to the Assistant Commissioner for Patents, Washington, D.C. 20231.

3-2-00
Date of Delivery

Timothy Robinson
Signature

Timothy Robinson
Typed or Printed Name of Person Signing Certificate

This cDNA was inserted into pBluescript plasmid. This plasmid was used by an individual working under my supervision to prepare a sample of plasmid for deposit with the American Type Culture Collection (10801 University Boulevard, Masassas, VA). This sample was deposited with the American Type Culture Collection on February 11, 1997 and subsequently given Accession Number 97881. A copy of the American Type Culture Collection deposit receipt is submitted as an Appendix to this declaration.

4. I further declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. §1001 and that such willful false statements may jeopardize the validity of the application or any patents issued thereon.

Date: February 28, 2000

Andrew W. Shyjan

Andrew W. Shyjan, Ph.D.

American Type Culture Collection

12301 Parklawn Drive • Rockville, MD 20852 USA • Telephone: 301-231-5519 or 231-5532 • FAX: 301-816-4366

BUDAPEST TREATY ON THE INTERNATIONAL RECOGNITION OF
THE DEPOSIT OF MICROORGANISMS FOR THE PURPOSES OF PATENT PROCEDURE

INTERNATIONAL FORM

RECEIPT IN THE CASE OF AN ORIGINAL DEPOSIT ISSUED PURSUANT TO RULE 7.3
AND VIABILITY STATEMENT ISSUED PURSUANT TO RULE 10.2

To: (Name and Address of Depositor or Attorney)

Millennium Pharmaceuticals, Inc.
Attn: Mark F. Boshar
640 Memorial Drive
Cambridge, MA 02139

Deposited on Behalf of: Millennium Pharmaceuticals, Inc.

Identification Reference by Depositor:	**ATCC Designation**
Plasmid DNA Tfohy030	97880
Plasmid DNA Nfohy030	97881

The deposits were accompanied by: __ a scientific description _a proposed taxonomic description indicated above.

The deposits were received February 11, 1997 by this International Depository Authority and have been accepted.

AT YOUR REQUEST:

X We will inform you of requests for the strains for 30 years.

The strains will be made available if a patent office signatory to the Budapest Treaty certifies one's right to receive, or if a U.S. Patent is issued citing the strains, and ATCC is instructed by the United States Patent & Trademark Office or the depositor to release said strains.

If the cultures should die or be destroyed during the effective term of the deposit, it shall be your responsibility to replace them with living cultures of the same.

The strains will be maintained for a period of at least 30 years from date of deposit, or five years after the most recent request for a sample, whichever is longer. The United States and many other countries are signatory to the Budapest Treaty.

The viability of the cultures cited above was tested February 20, 1997. On that date, the cultures were viable.

International Deposit ry Authority: American Type Culture Collection, Rockville, Md. 20852 USA

Signature of person having authority to repr sent ATCC:

Barbara M. Hailey

Barbara M. Hailey, Administrator, Patent Depository

Dat : February 21, 1997